What Is Causing Your Neuroinflammation And How It's Contributing To Your Mental Health Transcript

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Introduction and Guest Background

– Hey everybody welcome back to another episode of microbes and mental health. I'm Dr. Diane Mueller, I'm so excited to introduce this next guest Dr. Chris Shade, the founder of Quicksilver Scientific, a very dear friend of mine, welcome to the show Dr. Shade. – Thank you very much Diane, I'm happy to be here. – Thank you for coming. And we're gonna have we have a really interesting talk plan today and we're gonna talk about neuro inflammation, we're going to talk about the brain, we're going to talk about metals and mold and infections, tie it all back to mental health. But before we go there, tell us a little bit about how you got into this field, how you got inspired to create the amazing company, You have just tell us the background – Yeah, but you know it probably started taking hallucinogens in in college, I was supposed to be you know, it's like now you can say that like 10 years ago people be like oh my God Chris don't say that, that's what I've got here, you know, it's like I was doing environmental science at the time and at the time you're just running around chasing Dupont measuring toxins in the water and saying they're too high or too low and they're always too high but you're just playing this dumb game and uh and I was watching this and I was like this isn't very cool and uh and yeah then I you know, dropped some acid, took some mushrooms, became an organic farmer and and I was like all about health. I'm like let's fix the health of the people will do it through food. And then I worked at road analyst dude, healthy soil, healthy food, healthy people. And you know, I started my own organic farm and I joked that I went out of business the year, whole foods came around, it was a little too early for all that stuff and then I started doing some, it shifted back into academia around agriculture and uh and I was like pollution around agriculture and then I went to do my PhD and it was gonna be more of that. But I was just so boring.

It was like, yeah, you put the fertilizer around, it ends up in the stream. Whoa! Of course it does. And then I met this guy who was studying global cycles of mercury pollution and he was super smart Bob Hudson and just talked about all these different levels of how everything fits together. You know, really you know systems bio geochemistry because this is the whole globe and its systems, the geology, the hydrology, the microbiology all fitting together.

And that's what I really liked studying and I was looking at mercury fitting into all this stuff And then I came out of there and I wanted to start measuring mercury and people and I started to do an environmental samples because that's where I was trained but in the crash the last recession well like the big one of 2008 09 when Lehman broke and everything.

Somebody told me, you know health care is the only thing that doesn't go down in a slump. And so I wanted to do that. So I just jumped in and I had tools that they didn't have, I had ability to measure mercury in ways that weren't available and I already had supplements that they didn't have like I. M. D. R.

Metal bike for the gut binders are all big now. But then there wasn't anything really specific for what we were trying to do. So I jumped in right there.

We started, you know, having great results on mercury toxicity. Then I had to fill in all the gaps what systems are we up regulating and that was the glutathione system. How what else do we got to work?

We gotta get liver gating right? We gotta get all the binding right? Not just for the medals, but for the other things we, you know, we got to support the whole glutathione and support the kidneys and that was the growth of the company and it was really, you know, once we had the binder, we had to get glutathione in that brought us the liposomes and annual motions and all this stuff that we're known for in the bio availability world and that was what really opened the gate to do so many things that just weren't able to be done before. So that's how we got from there to here.

– Amazing, amazing. And I want to come back later when we talk about treatment to the technology, the Nanaimo

sulfide, the lipids, oma, all of that. Because I think it's super important for now though. Let's to start with kind of the neuro inflammation picture. How do we get neuro in flames?

What does it mean exactly? What are the high level things that people really need to know about neuro inflammation and connect that back to the mental health picture? – Oh yeah.

And you know, story wise, like when did I get into neuro inflammation? And I'm very into neuro inflammation, lecture on it a lot and it was an autism.

So, when I came into this world. So first I'm solving this mercury toxicity thing. So I'm brought in really through the holistic dental world. And so I am T. I. B. D. M. H. D.

Understanding Neuroinflammation

A. These are the holistic dental associations. I would Lecturing for those guys and then brought into integrative medicine through the first big lecture that I did was strategic Linhart on the day of my 40th birthday at the chemical and heavy metal supposed. So I was going into that integrative world.

And then you're quickly pulled into the autism world like, oh, you have solutions for metals and toxicity boom. They start having a lecturer at autism one and maps and taka places like that.

So I started going to autism one and you know, detoxing an autistic kid that back then consisted of first you get some homeopathic and you wave them in front of their face and it hurts and you know, a year later they take a drop a year later you move up to a tincture, you know five years later you're you're starting to get some sort of relevant clinical levels of of anything into them. And so it's like why did they hyper react like that? And so there was this hyper reactivity that was very neurological and all the great work around autism now is showing this auto immunity in the brain driving the neuro inflammation.

But there's a big brain side and there's an immune reactivity to but the brain one is the strongest of them and it's called neuro inflammation. And the way neuro inflammation works is you've got an immune system in your brain that's supposed to be a passive immune system. So you've got some astra sites that sort of signal in there and then you got the micro glia and the micro glia are in there and supposed to do synaptic pruning and get rid of old stuff and you know, open up you up for more neural plasticity, they're supposed to be your friends, you know, and they're they're just up there chiseling away and stuff and then signals from the peripheral immune system make it into them and activate them active activated microglia into this angrier more peripheral form, So peripheral immune system brings out all your pro inflammatory cytokines.

So all of a sudden the neuro immune is starting to throw up pro inflammatory cytokines. And they are irritating the and even pro oxidants and stuff. And so those are toxic to the neurons especially around the glutamate receptors.

So you have this back and forth between the activated micro glia and the glutamate receptors which is where you get like glutamate excitatory toxicity.

So the micro glia activate the glutamate receptors. They get hyperactive so they start having hyperactive glutamate signals and hyperactive glutamate signals or fighter flight signals.

So glutamate makes you sort of on it and aware and gives you vigilance but when they're too high they give you anxiety and fear and paralyze you so they're going to high and then they start psa creating other chemicals that go and re irritate the micro glia. So you got them in this self propelling neuron toxicity that we know when we have stuff and we have brain fog or anxiety going on. This is neuro inflammation.

And it's when these signals make their way in. So the thing is you can start it really from either side and the more you irritate either side the more it spits. So one of the most quintessential ways to activate the micro glia is through end of toxin.

So n o toxemia I mean what's your main thing that we talked about with endo toxemia now is like you got right. And so the toxin. Our little parts of bacteria not the whole bacteria but they're going through these loose injunctions in the G. I. They're getting into circulation now.

Your immune cells have these pattern recognition receptors that are looking for dangerous patterns. And a pattern of an E. Coli in your blood is a very dangerous thing. Like oh my God they're sepsis sound the alarm and they wind up pro inflammatory cytokines. Making the antitoxin an inflammatory.

It generates inflammation, generates it all through your body but very strongly through the brain. And there's other ways that we get the endo toxin and that we miss all the time. I mean U.

T. I. S. Are well known chronic infections in your jaws in your nasal cavities but carried on titus. Very highly correlated with endo toxemia, correlated with heart disease, correlated with depression, depression is neuro inflammatory disease, cardiovascular these are you know uh vascular inflammatory diseases.

So end of toxin can do it on the micro glia level. But so can a number of toxins and on the neuron level. Glutamate glutamate receptor agonists toxins that are excited toxins that wind up the activity of the glutamate receptors all you know it feels like you have super high glutamate but you have super high reactivity of the glutamate receptors.

And so those toxins are mercury. Glyphosate probably arsenic and cadmium will do it as well. A number of mold toxins. A number of dis biotic toxins. And so all these things going up there and especially if vascular inflammation is opening up the blood brain barrier.

All this comes as an assault on the brain. So this is happening all the time in the autism kids. You know, they're like anxious and irritable. This is hyper reactive glutamate unbalanced by gaba.

So in the brain you have the glutamate receptors, you have the gaba receptors in this yin yang thing. So fight or flight is on the glutamate side. Rest, digest repair regenerate detoxify is in that zen like neurotransmitter gaba side And so to block this. So as long as you're there you're in fight or flight you're locking up and dip prioritizing all healing modalities and especially detoxification. So you know, bile flow and the movement of bile and toxins out of the liver is totally dependent on that.

You lock up all of that, you lock things up at a cellular level. The whole ergonomics are locked. So how are you gonna detox these kids and you know at the same time I was coming into their people were saying, hey did you try this new, you know legal weed CBD?

And we started ordering bringing in CBD. I remember I think 30 grand for the first kilo of this stuff that looks like crankcase oil that came from Germany took me so long to get that cleaned up. Oh my God CBD is a miracle of blocking your inflammation. It blocks it stabilizes the micro glia.

So they stopped releasing all these pro inflammatory and uh irritating mediators and stabilizes the glutamate receptors. And so we started to use all these tools and turns out gaba can be used as well. Some kids hyper react to anything cannabinoid.

So these tools were able to like chill things out and then we come right in with the detox behind it and all of a sudden I got these kids on like adult doses of push sketch liver detox and it was like you never even imagined that could happen and boom it opens the door and the safe passage way to start offloading the toxins.

– Yeah, amazing! There's so much that I'm gonna give a brief summary of everything I heard. It's a lot. So I want to take a pause because there's so much here. So I'm going to give a brief kind of way oversimplified model of everything I said for everybody that's reading that just needs their brain to process this. And then you tell me if I have anything wrong.

So I want to make sure everybody is very clear that when we're saying peripheral inflammation, we're talking about inflammation throughout the body. So basically that is it's inflammation created anywhere throughout the body that

is gonna wind up hyper activating these micro clear of the brain leading to this inflammatory cascade which leads to this neuro inflammation, correct – Well kind of internal inflammation.

So we got circulating cells and then we got some sort of stuck there turning up inflammation that we think of like within the body and then when it makes its way to the brain, when something's make it into the brain then that can trigger it and it can be peripheral inflammation triggering it. It can be toxins going up and triggering it.

But the point is the brain's immune system should be separated from the peripheral so that if there's peripheral we don't necessarily turn up neuro inflammation but often they bleed across – The blood brain barrier disease.

The brain that's leaky and the next thing we know there's mercury and all these other things, the glyph estates and the pesticides and all these things in the room.

Yeah. Anything else that I missed there? We need to summarize. Okay, perfect.

Inflammation, Mental Health, and Immune Balance

So when this is happening and people are getting in a vicious cycle, I know you mentioned a little bit about mental health but go into it. Besides the imbalance between say the glutamate and the Gava, what other mechanisms are happening through which these inflammatory process, Our lead two things like anxiety, depression, bipolar is in the brain.

– Yeah, because they very much do in fact, you know when you look at like the papers on cannabinoids and it'll be like you know, the ability to stop no inflammation is the reason for the antipsychotic effect of CBD and so some of these things we know very directly. So when you have glutamate receptor activity that's creating anxiety right away. So like mercury alone is not all that inflammatory directly, it can change inflammatory responses but it goes right into the glutamate receptors and activates them. So its main first symptom is anxiety.

Now when you've got that hyper stimulated the glutamate receptors. Now glutamate receptors, that's what you use for memory. But memory brings fear because oh the lion's gonna eat me, you know, the fuzzy little koala is not but it's usually fear and survival.

And so when it's hyper going, you're always like hypervigilant right? That's the hypervigilance disease eventually that wears out and goes into cycles of depression. So you know exactly, you know what goes up and then goes down and you know is that then blowing out serotonin, are we screwing with the H. T. One A receptors?

I don't know and we don't really know all the mechanisms in there. But when the inflammation goes up, The homeostasis is lost, the balancing of the neurotransmitters is lost and things go just kind of haywire all over the place. But this primary circuit that it's breaking first is the Gaba glutamate one and that's actually 80% of all neuro transmission.

So the you know the the forward neurotransmitter, the excitatory one glutamate and then the inhibitory and calming one gaba that's 80% of the game up there and then all these things with dopamine and uh and serotonin and epinephrine and norepinephrine, those are all kind of secondary. They're super important.

But once that first one's broken, I think then the second one start breaking and then one person it'll be this manic psychosis and another person, it'll end up being depressive – That helps. So that kind of clears up like neuro inflammation. Gaba glutamate out of balance can lead to serotonin dopamine issues. Right?

And then let's take another step back because I know that in what's coming up for people is like, okay, well can't I just take anti inflammatory. So can you talk to us about nrf two anti inflammatory processes where that fits in with this whole picture. – So yeah, I mean like the crude picture is will Advil save me from this, you know? And when things are really wound up.

Yeah, toss a couple of those in there. Just settle this and a couple of anti histamines and settle everything down.

But there's a lot of sources of inflammation, you know, So we've got endo toxemia not just affecting the brain but affecting everything and when it does that it turns down detoxification because inflammation is part of the pro inflammatory activity of usually killing things and detoxification is anti inflammatory antioxidant, whereas inflammation is pro oxidant.

And so we're turning down antioxidant and detox stuff when that comes up and making us hold on to more toxins. So a couple of sources of inflammation.

You've got endo toxemia infections of course. Mast cell activation is a super big one. And our mast cells are all screwy haywire post Covid. And so that activation is just out of hand and then everything we eat we respond to. And then general food allergies which are largely mediated through mass cells. But this th one th two th 17 is a big access to.

So there's a number of things of targets that we can go to to bring down inflammation but their unique ones. And so just general anti inflammatories, they'll in a really inflamed like really difficult situation through anyone you can on there to just bring it down and get a little bit of peace in the system.

But long term use, you're going to, you could disrupt your immune system even further. You can make your immune system less vigilant against infections and your chronic infections might crawl in even deeper. You know, you've got like light line biofilm infections if you're constantly nailing you know, these big anti inflammatories, all this stuff can go a little bit deeper. So the point is you've got to get rid of the sources of inflammation.

So toxins infections, we're gonna say those are the big majors, the secondary mast cell activation of food allergies are secondary, their secondary to toxins and infections or they can be secondary to vaccines. So post Covid, whether you had Covid had vaccines you're gonna have immune dis regulation the vaccines.

I see much more immune dis regulation uh and more just like inflammation goes for a little while. But like, you know, my son guilted me into getting one so I could go visit his restaurant in new york.

Oh my God, what a freaking terrible idea. You know, I still like Covid twice. Then I had allergies for the first time in my life. Yeah. And so then I had to like, God, how am I gonna stabilize these messages? So sometimes you're going in if you've if you've addressed the toxins and major infections, sometimes you're going in and creating peace in the immune system because the war can just like drag on post Covid and you're reacting to all kinds of things.

You got PTSD and your biochemistry and then the request in lieu, geol and dim vitamin C, glutathione, chill that all out. Bring that back down. Oh and CBD especially bring that down to harmony. I just want to bring up something here that when we're working with CBD and with Gaba, we're working on the the neurological system and the peripheral immune system.

This is one thing I wanted to get back to it in the beginning. I said, well these kids, these autistic kids were having this wind up to these substances you gave them, you're trying to get them better and they wind up to them and it's neurological, but it seemed like it was immune to it is and both the brain and the peripheral immune cells.

Macrophages, mast cells have cannabinoid receptors and gaba receptors. And so all of those help tune down the brain and the peripheral immune system and bring that back down to some peace. So sometimes you just bring it down piece but you got to make sure that your main drivers are being addressed and taken out of the system.

– Yeah, so two part thing, we want to bring peace, we want to get to the root cause of why the body is a piece, right? – And that's why I can't just throw any old anti inflammatory in there. – So let's talk a little bit about the intense since this summit is about you know microbe, let's talk a little bit more about the infection component more deeply and what infections you think that are most troublesome from a neuro inflammatory standpoint. I know we talked about some are gram negative bacteria that have the LPS and you mentioned Lyme, what other infections are you really seeing causing neuro inflammation? And then let's go into treatment after that.

– Herpes family is a big one. Herpes six, you know, it's like we live with all these herpes viruses in us, you know,

and there's like herpes one through 30 and you know people tend to be like herpes one and two but Epstein Barr and cytomegalovirus are five and seven and then six is the real nasty mofo in the brain and 95% of the population have six in the brain.

But when does it get wound up and it gets wound up over during these inflammatory situations where maybe you're turning down glutathione. So glutathione is a major regulatory aspects of herpes viruses.

And when glutathione is low, herpes goes up. In fact so many p people when they have dental amalgams and this chronic mercury toxicity have a lot of herpes action.

And when we first came out with I. M. D. That powder for for taking mercury out of the G. I.

Infections Driving Neuroinflammation

System, so many people came up and were like you know, not just type one, Type two, they're like hey man my herpes is gone where it used to cycle on this frequent and their cell culture papers where when you deplete glutathione, herpes will just decimate uh a cell culture. But if you put extra glutathione in there it can't even get a leg up and get going. And so in these chronic inflammatory situations you're down regulating glutathione production, toxic situations, you're dragging glutathione out of the system.

And when that goes down your teach one teach to balance goes off, you become more teach too. And th 17 dominant, you lower interfere on your major inter cellular antiviral cytokines. So interference going down.

And then a number of these other I els that are associated with th two those are going up. So you're chronically allowing presence for the virus to get in there and once it gets in there, you know, like especially Epstein Barr once that gets ahold of things it's down regulating anything it doesn't like. And so that's a big one that gets in there and can be addressed by controlling your inflammation, bringing glutathione up, getting toxins back down out of the system. – Yeah, it's super super helpful.

So let's talk treatment, I want to talk a little bit about the you know, where we started the nano emulsified liposome technology because I think it's important that especially since we're talking about brain health and some of these things entering the brain, right? And so if we have some neuro inflammation, we have infections and toxins in the brain. Talk to us about the uniqueness of your technology and what that really does for you know, of cellular absorption, brain health, that sort of thing. – Yeah. And that's a big thing.

And at one note to just keep rolling forward. Sometimes the brain inflammation doesn't need a microbe in the brain. So biofilm infections that are that are vascular, anything that's winding up the inflammation can wind up the leaky blood brain barrier that brings that inflammation into the brain. So when we start talking about healing things were also going to talk about tight junctions, not just the G.

I. But the tight junctions in the blood brain barrier, those are all search you in uh in a. D. And search you in control. So as we get into healing stuff bringing high levels of N.

A. D. Into the system becomes more of a sealant for it. So how do we get stuff in there that our strength is the delivery system and the delivery system are liposomes, nano emulsions and something called self emulsify ng delivery systems.

So most people have heard of like possums and they they just put everything into oh it's liposome or this or that you know. But fat sybil's actually don't go into liposomes very well. They go into these things called nano emulsions.

So a liposome is like a tiny little cell. It's a sphere made out of frosted alkaline and other fossil lipids that looked just like a cell membrane. But you know you're thousands of times smaller and there's water in the middle and you put water sybil things in there like glutathione like vitamin C.

B. Complex and a. D. Precursors and a man or nicotine oman right beside those all go into a liposome nano emulsion is a mono layer of the fossil lipids and other surfactants with oil droplet in the middle. And then you put fats eyeballs in their C.

B. D. Vitamin D. Vitamin K. Vitamin A. All the really strong uh phytochemicals most of them will go in there. And so if we're talking about their brain or question resveratrol curcumin you can tune these particles so that the center of them is like a beaker.

And you've got just the right elements to dissolve all of these compounds in there and we're gonna make these particles so small in this, you know nano range, nano is just an arbitrary range. It's 100 nanometers below that.

The nanotech or the nano size. This was just it was an arbitrary designation made by the catalyst industry because when they were making the nana titanium, these small ones worked really well because they had high surface area and we'll get back to safety in there and nano titanium. No no no no no nano fossil lipids.

Yes. Yes. Yes. Yes. Yes. Because you make these things, it's very similar to how we traffic fats in the body. So we're gonna make these nano emulsions and liposomes in this less than 100 nanometer range.

And when we put them into our mouth and hold them in there they're going right through the capillaries in the intra oral space, right through the mucous membranes, right into the capillaries and right into circulation.

You know you're holding something in your mouth within two minutes. You can measure it in your blood probably sooner. I just haven't even tried it any sooner than that five minutes.

I mean you super high levels. That's the intra oral then you swallow it And it's going through the stomach lining makes its way to the upper G. I. The rest of it gets in.

So these compounds are peaking in your blood between 15 and 25 minutes after taking them and going in a new metabolized. A lot of these things. We have all this data on these these phytochemicals working in cell cultures or injections and animals and turns out to your gut you're starting to metabolize that many already and the more active forms aren't getting in and they're taking hours to absorb.

And so you never have that peak in the blood that you need to activate the pathways we're going after. So when we talk about detoxification but it's also an inflammation control. You have Nrf two response to peaks in the blood of these phytochemicals. And P. K.

Which puts you into ketosis responds to peaks. In fact you put a bunch of these things that are MbK activators and you take it orally, you go into ketosis in 30 minutes uh and you don't have to be you could have eaten carbs the day before it'll still work.

Delivery Technology and Detox Support

It's getting these compounds all in coming to bear on the situation altogether and then we can have something in the life zone something in an annual motion.

Another thing all come together and open up all the doors and activate all the pathways and get everything flowing. We call that bio synchronous activation.

We're synchronizing all the activities the CBD is going and calming down neuron peripheral inflammation allowing detox as the enter of two of regulators get in there.

Glutathione is in there for the cells to use everything is moving down the liver supplements are activating the liver to pull toxins in activating bile to dump the toxins all toxins move with bile. And since we've done that all at once, we coordinate this flow out through out of periphery through the liver and into the G.

I. Then a half hour later we come in with our binders and mop it all up and tie a nice little bow on this cycle that we call push catch. So you're not just spitting out toxins here and there. You know, first the late poet gets in and then some vitamin C. Hours later bear Breen's in their questions, wondering what to do, where to go. You got to get it all in, do your job and let it go away. – So I want to really emphasize something you said because I think this is such a really great point for people of you know like oral taking a supplement orally. One of the problems I'm hearing that you're sharing is like there is a slower level of absorption and because there's not that same peak that you're gonna get from your type of delivery, you're not going to trigger these pathways that are health promoting that our detoxification that are anti inflammatory.

The pathways don't even get to triggered. Even if the supplement in an oral situation is getting absorbed in some of these situations right? – Yeah either, never get too high enough dose to to trigger or you're taking three things that you want to act together. One goes in fast one takes three hours, one takes eight hours. They're never hitting the right targets at the right time. – Yeah. Yeah. It makes a lot of sense.

So you know and thinking about how to treat a lot of this stuff. So we'll say we have we have mental health, maybe it's it's an anxiety impression, maybe it's autism. Whatever the issues we're dealing with.

We have infections, we have talks and somebody's in flames. Like do you recommend most people start with your push catch system? That holistic type of we're going to do everything and get everything in circadian rhythm. Is that where you recommend most people start – We have a couple of different levels too. Come into the game at you can see this titrate a shin curve of a dosage level over time and really sensitive people are starting low and they're working up the high doses and coming back down given a push catch.

We have level 123 and an optional level four or we have something called pre tox. So a lot of the real sensitive ones pull back for a second. We're talking about like Nrf Two activation is gonna get peripheral toxins blown into the blood. The blood to the liver liver to the G. I.

And ketchup or blood to the kidney kidney out to the urine means they're going to go from the tissues to the blood before they get drained. A lot of people have had drainage issues, blocked bile flow, blocked urinary flow block G. I blocked lymph.

The last thing you want to do and there so they have a high blood circulating toxin level. They're not draining a lot out there already super activated.

And the last thing you want to do is put more toxin from the tissues into the blood. So you start with drainage remedies and this is get bile to drain out of the liver, take the toxins out turnip diary sis and help toxins move out to the kidneys, get the G. I. Flowing, get the binders and the G.

I get the toxins out of the G. I get movement in the lymph and let's get the blood levels down. Give them a month like that and then we'll go and squeeze more from the periphery because if you try to squeeze more in, you wind up more inflammation anytime you wind up inflammation in the job of detox, you block detox.

So we call that the pre tox protocol. So we have a pre tox protocol, you can do that for a month, then going to push catch or advanced push catch or if you're working with a practitioner, you want to go into our cube two point oh that's like the mack daddy of them. We have a mold detox.

So there's different ways to do this, but you want to start light and then when you get into the bigger stuff you're still go start low and move yourself up and then come back down.

– Excuse me. So in that regard I'm curious from a cellular level. Right? So we have these toxins that are being released and we're breaking things down.

We're making sure we're not going too fast because too many toxins going too fast that negatively react negatively actually impact the cycle. Right? So how are we controlling from a cellular level with ourselves holding on the toxins, how are we controlling?

Like making sure that the cells are even releasing toxins. What are we doing from the cellular standpoint of things? – Well the big trigger for getting the cells to push things out is this NRF two.

And so the big one that we use for that is called r like poet acid. So if you in this pre tox thing we want things that open a bio flow, open up, urinary flow uh you know maybe some free radical mops in fact we use vitamin C. Instead of glutathione to calm down.

Free radical activity. You've got the binders, you want more of a passive drainage, you don't want to activate NRF two too hard. And so we have no like poke acid in that one. We in this case we're not questioning and lou d'Olonne can help better off to dim, can help with uh none of those involved in in this level of that.

Some of the other big ones like sulforaphane is a big enter of two activator and a lot of people are like oh sulforaphane, great I get to detox and they just blow themselves out.

Or even though something to think about big is the whole sort of the end of two up regulators are either in the polyphony all families or more powerfully in the sulfur vegetable families. And so sulforaphane is from broccoli sprouts, ELISA theo cyanide is what you would get when you're eating wasabi and there's some wasabi supplements out there. There's a number of other sulfur compounds from alliums and from Krusa furs like podcasts. It is a sulfur compound I like like poet because it's less reactive with the cBS system the system the synthesis system and a lot of people who are toxic. They're doing a lot of the Christopher's and alliums and things like that. Thinking they're helping themselves detox and they got to take them out of the system totally. They usually usually have to bring my lip venom levels up but there's a lot of free radical activity that comes with them.

There's a lot of irritation of the system that comes from them and let's take that out, get the drainage going, get the system calm down and then we can slowly bring that up because here's the thing. Nrf two up regulators, every single one of them is a toxin. You think these things are antioxidants.

Oh green tea extract. That's an antioxidant because it brings up NRF Two. No it's pro oxidant and actually makes free radicals like podcasts ID. It's a pro accident.

It makes free radicals that oxidizes keep one to release NRF two. The strongest of them all is sulfur fine. So it's also by far the most toxic of all these phytochemicals. And so this dance that you're doing.

You want a light free radical activity to up regulate NRF Two without having collateral damage. PHENobarbital is center of two up regulator. Methyl mercury arsenic is cadmium is but there's a lot of negative effects that come with them. So it's important to know when to start hitting those triggers. – Yeah. So what I'm hearing and that is like just because we think it's like good just because we think it's good for detox.

Just because we've heard that it helps with the process.

Pre-Tox, NRF2, and Barrier Repair

Like I don't think that there might not be some bad, you know, quote bad pathological process and be careful because some of the stuff is like not necessarily true antioxidant at least until it reacts with things like keep one and start the process of – Stuff also down regulating NRF Two mold down regulates Nrf two activity. We one of the uses of dim is to help free enter of two up from the mold. So this guy called me once and they given a woman with high mold toxicity. A podcast at ivy and she had all these micro vascular bleeding. She just like melted.

And he first told me she melted after a lie poet thing. And I said, where was she living in a moldy area? He goes, yeah florida. I'm like, yeah. Nrf two is down regulated. So then the podcast is just a toxin.

– Yeah. Do you want to, what else do you want to cover today? What else have we not covered? You wanna cover? And do you want to talk about something?

– I did write down cartoons and like you got. And so sealing up the periphery is a big thing when you're trying to get

your people who are real sick and they have all kinds of stuff. You'll have them doing uh nasal washes.

I have them you know, brush with our our tummies and in jail to clear up all this stuff in there. They might be gargling with stuff. You got to keep all that clean uh to stop that inflammation but locking up the tight junctions in the G. I. And in the brain is a search to independent activity. So N. A. D.

Sirtuin activators and BK activators all go together. But I would do lots of N. A. D. Precursor like our energy, any gold or platinum. Those, I mean a lot of people who are like, oh my God, I couldn't deal with gluten before now I can deal with it.

My brain fog is gone away. A lot of people report brain fog going away. But you know make sure you get up to some high doses, you know like N A. D. Platinum, you know there's dozing on there for half a teaspoon because it's expensive. But if you're trying to seal this stuff up, you're taking 234 teaspoons a day. And as soon as you feel, you know lightning, you know like brightening in the brain, you know, you're sealing that up and you're sealing up the tight junctions as well, – Awesome, awesome. And then do you want to mention any of the products you have coming up down the line and talk about that at all?

– You know what? Well you and I have been working on on some some lime critter formulas. So crypto Lepsis in an animal motion and crypto Lepsis with smile ax and Japanese, not would those two will come out. We have it's been a little delayed, we have a college in coming out that's got all kinds of keto things in it.

That will be really good for leaky gut because it's got sirtuin activators. It's got Christian resveratrol and terra still being in it, along with some green tea, the extract embedded into the matrix of the collagen.

So that'll work is also taking some N A. D supplements on the side. That will work to seal up leaky gut as well. So those would be big in this mental microbes and mental health world, both of those sets of products.

– Yeah and I'm really excited everybody about these these supplements coming down the line because especially in like the chronic infection world where these microbes sometimes hide you know these intracellular spaces or they burrow so deep in our tissues, their latent, they don't trigger our immune system anymore.

All of these types of scenarios and the research we're seeing on some of these, you know these herbs, it's just like phenomenal so to put them in this technology is like – Yeah and so what I've moved to doing a lot of is you know, you've got like a single compound that you're showcasing you know like a pure thing like a resveratrol a quest and then you've got whole plant extract that's filling in all these things.

We don't know everything that it's doing. And uh and then put them all together into these delivery systems. You'll see liver sauce does that and and the kidney does that, the performance cardio does that.

And you know, micromanager does that. We'll see that more in the ones that were working on and bring it out soon. – So amazing. So amazing. And you guys you also have amazing tests for mercury and toxic metals and minerals and all of that. So I want to make sure everybody is aware of those tests that are available as well and you have any final concluding thoughts you wanna leave us with today? – No, just, well, I always say no.

And then I give you a final thought. Yeah, I do actually.

Future Products and Closing Thoughts

Sometimes it can, it can be really like, oh my God, scary like this, especially when you've got got damaged in the brain from ongoing inflammation, like how do I handle this? There's so many things going on, it's not that many things. And you can have, you know, you can go through learning from people like Diane, myself.

You can go to a practitioner that can help you get through this, but you need to drain things, you need to calm the immune things, the immune system and then you've got to go pick off some of the creature in there and when you get past a certain point, your immune system will take over and it'll clear the rest away. You know, the reality is,

and some of these biofilms in line, it's never totally totally gone.

You know, and I have stuff that comes back over time and you know, I can feel it, you know, the fog comes in. The tiredness goes in. The fuzziness comes in. I know, I gotta detox, I gotta lock the barriers back up again and knock a couple of things out of the way, but you will get there, you can get there and you just have to remember some of these some of these points that are really essential. – Yeah. And I think that the final thing that I'll say just in reference to what you're saying is it's really cool, you know, to be able to be empowered right? Where it's like the human body is not supposed to be perfect every day, right? We have highs and lows.

So it's like so much of this work that you're doing on educating people and teaching people, like how you know what to look for, how to do this is so important because the idea with this is like you start learning like, oh this is what my brain feels like when I'm neuro inflamed and I know what to do and I know all of that.

Right? So thank you so much for being such a wonderful resources. Always I enjoy every talk I ever hear of yours. It's such a, such a treat and a pleasure to be with you.

I really appreciate it. – Have a great time with you and we'll do more. – Sounds great. See you next time